

Applic. No.: 10/045,835
Amdt. Dated August 27, 2004
Reply to Office action of May 20, 2004

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of claims:

Claim 1 (previously presented): A method for generating an aerosol, the method which comprises:

providing a gas supplied with input particles;

providing an enclosure having a cross-section continuously widening in a direction of flow and towards an end of the enclosure to achieve a supersonic velocity;

guiding the gas with the input particles and causing the gas to flow at the supersonic velocity to cause a compression shock to occur downstream of the end and outside of the enclosure; and

breaking the input particles into output particles being smaller than the input particles by passing the input particles through the compression shock, generating the aerosol.

Claim 2 (cancelled).

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Claim 3 (previously presented): The method according to claim 1, which comprises providing the enclosure, as seen in the direction of flow, with the cross-section of the enclosure narrowing prior to widening in order to achieve a sonic velocity.

Claims 4-6 (cancelled).

Claim 7 (original): The method according to claim 1, which comprises feeding the input particles to the gas while the gas is at rest.

Claim 8 (original): The method according to claim 1, which comprises feeding the input particles to the gas while the gas flows at subsonic velocity.

Claim 9 (original): The method according to claim 1, which comprises:

providing the enclosure with a narrowing cross-section upstream of a widening cross-section as seen in a direction of flow; and

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providing the gas such that a pressure of the gas in a resting state upstream of the narrowing cross-section is between $1 \cdot 10^5$ Pa and $2.5 \cdot 10^7$ Pa.

Claim 10 (original): The method according to claim 1, which comprises:

providing the enclosure with a narrowing cross-section upstream of a widening cross-section as seen in a direction of flow; and

providing the gas such that a pressure of the gas in a resting state upstream of the narrowing cross-section is between between $2 \cdot 10^5$ Pa and $2 \cdot 10^6$ Pa.

Claim 11 (original): The method according to claim 1, which comprises:

providing the enclosure with a narrowing cross-section upstream of a widening cross-section as seen in a direction of flow; and

providing the gas such that a pressure of the gas in a resting state upstream of the narrowing cross-section is between $3 \cdot 10^5$ Pa and $1 \cdot 10^6$ Pa.

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Claim 12 (original): The method according to claim 1, which comprises:

providing the enclosure with a narrowing cross-section upstream of a widening cross-section as seen in a direction of flow; and

providing the gas such that a pressure of the gas in a resting state upstream of the narrowing cross-section is substantially $5 \cdot 10^5$ Pa.

Claim 13 (original): The method according to claim 1, which comprises:

providing the enclosure with a narrowing cross-section upstream of a widening cross-section as seen in a direction of flow; and

providing the gas such that a temperature of the gas in a resting state upstream of the narrowing cross-section is between -20°C and 400°C.

Claim 14 (original): The method according to claim 1, which comprises:

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providing the enclosure with a narrowing cross-section upstream of a widening cross-section as seen in a direction of flow; and

providing the gas such that a temperature of the gas in a resting state upstream of the narrowing cross-section is between 0°C and 50°C.

Claim 15 (original): The method according to claim 1, which comprises:

providing the enclosure with a narrowing cross-section upstream of a widening cross-section as seen in a direction of flow; and

providing the gas such that a temperature of the gas in a resting state upstream of the narrowing cross-section is between 10°C and 30°C.

Claim 16 (original): The method according to claim 1, which comprises:

providing the enclosure with a narrowing cross-section upstream of a widening cross-section as seen in a direction of flow; and

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providing the gas such that a temperature of the gas in a resting state upstream of the narrowing cross-section is between 20°C and 25°C.

Claim 17 (original): The method according to claim 1, which comprises providing the gas such that the gas includes at least one element selected from the group consisting of air, N₂, O₂, and CO₂.

Claim 18 (original): The method according to claim 1, which comprises providing the input particles such that an average size of the input particles is between 20 µm and 200 µm.

Claim 19 (original): The method according to claim 1, which comprises providing the input particles such that an average size of the input particles is between 40 µm and 100 µm.

Claim 20 (original): The method according to claim 1, which comprises providing the input particles such that an average size of the input particles is between 45 µm and 60 µm.

Claim 21 (original): The method according to claim 1, which comprises providing the output particles such that an average size of the output particles is between 1 µm and 10 µm.

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Claim 22 (original): The method according to claim 1, which comprises providing the output particles such that an average size of the output particles is between 2 μm and 5 μm .

Claim 23 (original): The method according to claim 1, which comprises providing the output particles such that an average size of the output particles is substantially 3 μm .

Claim 24 (original): The method according to claim 1, which comprises providing the input particles as droplets of a liquid.

Claim 25 (original): The method according to claim 24, which comprises providing water as the liquid.

Claim 26 (previously presented): The method according to claim 24, which comprises providing the liquid as a carrier liquid carrying an agent.

Claim 27 (original): The method according to claim 26, which comprises providing the agent as a pharmacologically active agent.

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Claim 28 (original): The method according to claim 26, which comprises providing the agent as a pharmacologically active inhalation therapy agent.

Claim 29 (original): The method according to claim 26, which comprises providing a solvent as the liquid.

Claim 30 (original): The method according to claim 29, which comprises providing an alcohol as the solvent.

Claim 31 (original): The method according to claim 24, which comprises providing a combustible liquid as the liquid.

Claim 32 (original): The method according to claim 31, which comprises providing a fuel as the combustible liquid.

Claim 33 (original): The method according to claim 1, which comprises providing at least some of the input particles as loosely linked particles selected from the group consisting of solid particles and semi-solid particles.

Claims 34-61 (cancelled).